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CHAPTER 14

Affecting Schools through a Health Education Initiative

**TASHMIN KASSAM-KHAMIS &
SADIA MUZZAFAR BHUTTA**

Introduction

Health is inextricably linked to educational achievements, quality of life, and economic productivity. By acquiring health-related knowledge, values, skills and practices, children can be empowered to pursue a healthy life and to work as agents of change for the health of their communities. (Dr Hiroshi Nakajima, Director General WHO, 1997; see Nakajima, 1997)

Since the 1950s it was acknowledged that to learn effectively children need good health (WHO Expert Committee on School Health Services, 1950). Research shows that malnutrition as well as parasitic and other infections in primary school age children cause low school enrolment, high absenteeism, early drop-out and poor performance (Pollitt, 1990; Levinger 1994). When health is defined more broadly as a state of complete physical, mental and social well-being rather than merely the absence of disease (WHO, 1978), the health benefits of education are easily established. School has a direct effect on the self-esteem and health of its staff and students (Hopkins, 1987; Sammons, Hillman & Mortimore, 1994). This positive effect is particularly significant for girls who as future mothers are more likely to seek prenatal care earlier, give birth to healthier babies and bring them home to healthier environments. In fact, the single most important determinant of a child's health is believed to be its mother's level of education (Das Gupta, 1990; Arya & Devi, 1991). For example, mothers who have attended even one year of schooling are more likely to have their children immunized (WHO, 1996).

The evidence of the close relationship between health and education supports the drive for promoting health in schools to combine the goals of 'Health for All' and 'Education for All' through the Global School Health

Initiative (WHO, 1996). This initiative for Comprehensive School Health Promotion integrates three areas in the school, which usually work separately, into one health programme, namely the school environment, school health education and school health services, hence the term 'comprehensive' (WHO, 1996, 1997).

In 1997, the Institute for Educational Development at the Aga Khan University (AKU-IED) conducted a study to identify the need for school health programmes in Pakistan (Hawes & Khamis, 1997). This concluded that while the education policy of Pakistan identifies health and physical education as a part of primary schooling, it is only attended to in a token way; school staff and parents desired health promotion as a necessary part of their children's education and confirmed that not enough was done in the schools in this regard. In 1998, as a follow-up of the needs analysis, AKU-IED, in partnership with Save the Children (UK) and the Child-to-Child Trust (UK), began an action research project entitled, 'Health Action Schools' to develop prototypes or models of health promoting schools in Pakistan. This chapter will focus on the effects of teachers' training in health education, and children's participation in promoting health, on the school and its community.

Health Action Schools in Pakistan: an overview

Some 40 schools were initially visited as potential pilot health action schools and five were selected using the following criteria:

1. School Head and or the Principal expressed interest and enthusiasm to try out the project.
2. Teachers and students wished to take on the programme.
3. Schools represented different socio-economic and educational contexts.
4. Schools were within reasonable reach of the AKU-IED (within an hour by car).
5. Schools were willing to interact with each other when possible to share ideas and act as a support to each other.

The selected pilot schools consisted of three schools of low socio-economic status, one of high socio-economic status and one of middle socio-economic status. Three of these schools were mixed and there was one boys' school and one girls' school.

The implementers of the health action programme were the schools themselves, initially through the teachers. AKU-IED inputs into schools were confined to teacher development through training, monitoring and the distribution of resource materials for lesson planning and teaching. No additional textbooks, audio-visual materials or other costly financial inputs were given to the school as this would endanger the possibilities of sustainability in schools with limited resources.

Each school appointed a health co-ordinator, from amongst the teachers, to manage the programme and committed to 30 health education lessons per year (or 10 lessons per term over 3 terms) taught either as a separate weekly subject or through finding time within other carrier subjects, for example, Science, Social Studies or Language. Thus on average at least one health lesson was taught each week. Moreover, each school designed and implemented its own 'School Health Action Plan' (SHAP) based on local health priorities and needs of the children. In the SHAP teachers identified an overarching health theme for each term under which health education topics were identified. For example, in one school under the theme Hygiene, topics on oral health, safe stools and food hygiene were taught for lower primary, middle primary and upper primary classes respectively. In addition co-curricular and environmental activities were defined to promote health beyond the school to the community. For example, under the Hygiene theme the term activity in one school was a Neighbourhood Cleanliness Campaign or a drama for the community on Safe Clean Water. Therefore, the initiative incorporated health education within the timetable and management structures of the schools without requiring significant reorganization of teaching time or syllabus coverage.

The method used to teach health was different from what teachers were used to in other subjects. It required teachers to teach a health topic over a sequence of activities or series of steps that linked learning in school with action at home. This helped children think and make decisions about health and encourages teachers to promote understanding and life skills on health issues. The particular approach to teaching health introduced in the five health action schools was the *Child-to-Child approach* (see Figure 7).

This approach promotes the following principles (Bailey et al, 1992):

1. Children's participation in their learning is crucial.
2. To link what children learn now with what they do now.
3. To link what children do in class with what they do in the community.
4. Health Education is not taught in one lesson and then forgotten but is learnt and developed over a longer period of time.
5. Health Knowledge is translated into Health Action.
6. Children can become health promoters in their communities.

Teacher training was the first step in the implementation of the Health Action Schools (HAS) pilot schools. Teachers were first exposed to the six step approach during the introductory Child-to-Child training which usually lasted two-three days. In a series of training sessions with support follow-up in school, the six step approach was translated into a 'topic' or unit plan in order for teachers to plan a sequence of activities on one health topic so that a minimum of four lessons (approximately 40 minutes each), with homework in between, were spent on each health topic. This was intended to help teachers move away from the idea that a health topic can be taught in one lesson. Teachers set KNOW (knowledge), DO (behaviour and action) and

FEEL (attitudes and life skills) objectives. This enabled children to go beyond knowledge to taking action and changing behaviour. Teachers then planned a lesson or homework on each step.

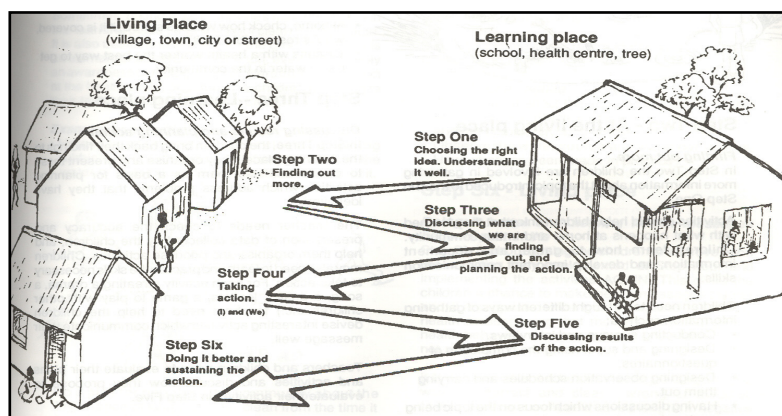


Figure 7. The Child-to-Child approach.

Our experience in Pakistan (Khamis, 2000) suggests that the Child-to-Child approach has helped teachers to:

- Promote more children's participation in the classroom.
- Use active child centred methods in order to promote understanding.
- Be more outward looking in their teaching by linking learning in the classroom with experiences at home.
- Move away from teaching health in one lesson to planning a series of lessons on one health topic.

We have also found that health education helps teachers improve their teaching methods, *even in subjects other than health*. It appears that as health is personal and related to daily living, teachers find it easier to teach health in a child centred way, involving children in their learning and relating health to life at home. Once they have gained confidence by trying out the new teaching methods in health they are able to use the same methods to teach other subjects. The following sections in this chapter will describe in more detail how health education has worked as a lever of change and the factors that have led to this success.

Health Education: a vehicle to school improvement

Success in health education proved to be a step towards school improvement. This section will discuss the impact of the health programme on teachers and children.

Children learn and have fun at the same time when we teach health. More children come to school on the day when health is taught. (Head Teacher, Government School)

Impact on Teachers

In the beginning of the project it was observed that in most of the pilot schools teachers were inclined to use rote learning in the classroom. Lesson planning, children's involvement in the teaching/learning processes and talking about their teaching practices were rather alien, especially to teachers in government schools. Through workshops, school follow-up and lesson observations, teachers became more open to discussing their practices, sharing experiences and asking critical questions to improve their own practices. There was evidence of teachers not only using active methods like storytelling, pictures and puppet shows in their health lessons but also when teaching other subjects.

I learnt how to tell stories by story mapping in the health sessions ... but now I use story-telling strategies in other subjects too. (A Private School Teacher)

This is the first time I have used puppets in my teaching over the last eight years and the children really enjoyed it. They were all listening. (A Government School Teacher)

When asked why they chose to teach health education teachers responded that they saw benefits in the programme for themselves and their own families as well as for the children they teach (Carnegie & Kassam-Khamis, 2002).

I have been inspired to be meeting a need of children. That's why I teach health – to create an awareness in children on how to care. I have also learnt more about health which benefits my own children and family and neighbourhoods this also motivates me. For example, I can now give First Aid to my own children or to others in the school, even if the nurse is not around.

I had never imagined children can do so much, making toys for younger children. I was surprised by how children were able to make poems on health issues. The children amazed me – how much data they would collect from surveys. I thought they would only collect information from their families, others would not give them but the children received a positive feedback from the community. The response has been positive from everyone so the

process survives. (Former HAS Health Coordinator, now Deputy Head, Private Boys School)

Impact on Children

The project encouraged and increased children's participation in the classroom and in promoting health, through linking the school with the home. Children developed better communication and inquiry skills by having to finding out more from home or from other classes in the school, about a health topic discussed in their class. They were involved in formulating survey questions, collecting data, and planning health action on the basis of survey results.

The following quote illustrates how children enjoyed being involved in the health lessons.

I like my health teacher because she is very kind and she gets angry rarely, only when we make noise. The most important thing I like about her is that she involves us in discussion during the lesson, while the other teachers usually just teach us the lesson. When our teacher teaches us a health topic she asks us to gather information and we make graphs....I really liked some of the health topics because the teacher used pictures. For example, she drew a picture of a dining table with different foods on it. It was very good and I remember it. (Student, Private Boys School)

The external evaluator of HAS's comments below show the health programme helped to make the classrooms more inclusive of girls and significantly enhanced their participation (Carnegie & Kassam-Khamis, 2002, p. 51).

I have visited many co-educational schools in Pakistan where the girls are virtually invisible, huddled at the back of the class. It was therefore a joy to see the head teacher, who initially appeared very conservative, direct about 70% of his lesson to the girls. When he asked a question, boys would fling up their arms, while the girls raised a discreet finger. Yet he noticed these hesitant fingers and coaxed the girls to respond to the class. These are the small, but highly significant beginnings of helping girls to become active participants in classroom learning, not just statistics for the register. Later, in a role play, a girl took a key role as the doctor, the figure of authority. The photo below indicates how confident and happy she felt in this role. (External Evaluator on visit to the Rural Government School)

Teachers reported changes in the health behaviour of children, including an increased number of children bringing boiled water to school, children bringing healthier food in lunch boxes and a decrease in the number of

accidents in the school. We specifically documented changes in the health knowledge and self-esteem of children. Our findings on these two aspects are discussed below.

Children's Health Knowledge

Both mid-term and end of term external evaluations of the programme found that there had been an improvement in children's health knowledge skills and behaviour. This was further confirmed by our own pre- and post-tests on health knowledge and self-esteem (Khamis, 1998; Gibbs, 1999; Carnegie & Kassam-Khamis, 2002). Examples of health knowledge questions included how to make Oral Rehydration Solution; how long to boil water for safe drinking; how to prevent coughs and colds; the diseases prevented by immunizations, and so forth. Figure 8 compares the percentages of correct answers to health knowledge questionnaires in the pre- (baseline) and post-tests of students tracked from each school (1998 vs. 2001). An increase in health knowledge is seen in all schools (chi-squared tests) but this is statistically significant ($p < 0.05$) only in the poorest government rural school.

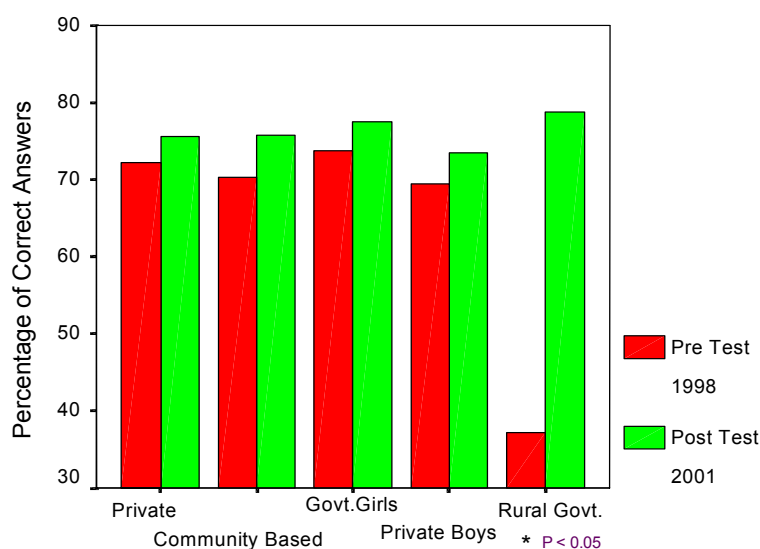


Figure 8. Comparison of health knowledge.

There appear to be three possible reasons for this marked improvement in the government schools as compared with private schools.

- Use of mother tongue to teach health education probably helped children from the Urdu medium schools to understand the health messages better than those children who had been taught health education in English, by teachers often not proficient in English themselves.
- Health was taught as a separate discipline rather than integrated or 'carried' through another subject such as science and social studies. Teachers often did not have the skills to integrate health within other subjects but were better able to focus on health concepts when health was taught as a separate subject.
- The whole school was involved in the health education programme. In most schools health education was targeted to selected classes only and in these schools we see less improvement both in health knowledge and self-esteem. However, where the whole school was involved in health education and promotion children's self-esteem and health knowledge was markedly increased.

Children's Self-esteem

Increasing children's self-esteem was an anticipated outcome of the HAS intervention. A validated self-esteem questionnaire for over 8-year-olds in primary schools used elsewhere (see the Lawseq questionnaire in Lawrence, 1996) was adapted and translated to assess the self-esteem of HAS children as there was no tool to assess self-esteem which has been developed and tested in Pakistan. Before the pilot project began the questionnaire was administered with children aged over 8 years and the same children were tracked after three years for post-evaluation.

Figure 9 shows a statistically significant improvement (t-test, $p < .05$) in children's self-esteem in the rural government school after three years of the health programme and a greater increase than the other three schools, in the community-based school. (In fact in one school we see a slight decrease in self-esteem, though this is not statistically significant.) This may be due to the fact that only in these two pilot schools (government and community-based), a one teacher to one class relationship exists. This is where a teacher has children for most of the time in a day and would have more chance to enhance their self-esteem because they know and understand the children better than a teacher who just stays with a class of children for an hour in the whole day (Lawrence, 1996). In the beginning of the project the chalk-and-talk method was prevalent in most schools and in some schools teachers even used the stick whilst teaching. Over the project period gradual improvements have been observed in the way teachers teach. No school teacher in any of the HAS pilot schools now uses the stick in the classroom and children have been seen to be more involved in the teaching/learning process through active methods. Use of chalk and talk to teach was much less prevalent in all schools. In the rural school during baseline data collection children were too

shy to even go up to the blackboard to write their names. By the end of the project not only were children happy to teach others through drawing pictures on the blackboard but they were seen to be both asking questions and answering teachers' questions, a sign of their growing confidence. As is supported by the final evaluation, more impact is seen in the smaller, poorer schools and thus perhaps greater gains are to be made where lower starting points exist (Carnegie & Kassam-Khamis, 2002).

In measuring impact and identifying potential constraints to implementation, it is concluded that the greatest gains can be made in small, poorer resourced schools in rural areas or close-knit urban communities. (Final HAS Evaluation, Carnegie & Kassam-Khamis, 2002)

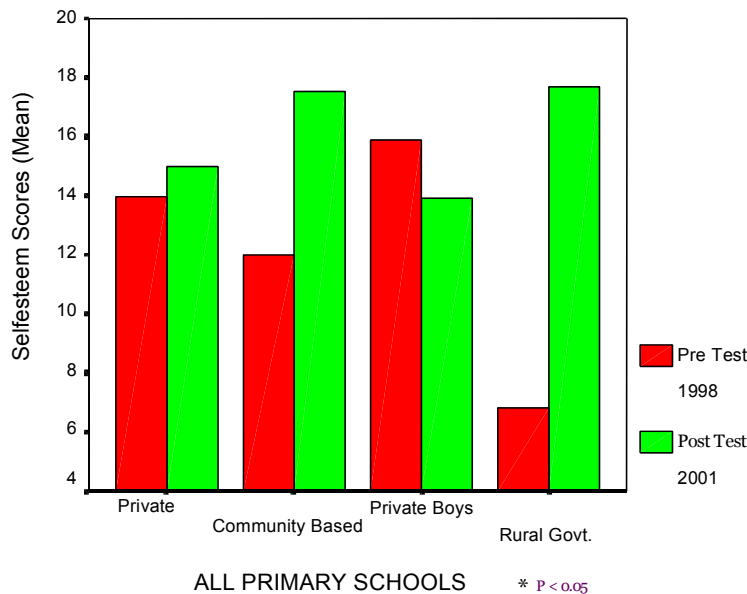


Figure 9. Comparison of self-esteem.

Factors that have Led to a Change in Teaching and School Improvement

In this section we try to identify the factors that have led to school improvement and teachers teaching better.

*Partnership and Ownership:
the dynamics of a school-university partnership*

The HAS project was clearly owned in each setting by the school even though it was initiated by the university (AKU-IED). Teachers often highlighted the prestige in being involved in a pilot programme that was watched by others. They mentioned to the mid-term reviewer that they enjoyed visitors from the university and abroad asking them questions and 'learning' from their experiences. They also enjoyed being partners in the research project with a well-respected university. They saw personal gains in exposure to the AKU-IED's professional development courses as well as its resources – sometimes to the detriment of the school as through this teachers were more marketable and were able to move on to better jobs. Teachers also saw a direct benefit as a result of the support received from AKU-IED for their teaching, such as in lesson planning, health content materials given and professional development sessions.

I like the way the HAS project has evolved all these 3 years, completely involving the concerned schools. As a result, the whole project was quite 'tailor made' for us. (Head Teacher, Private School)

Needs-Based and School-Based Teacher Education

After initial workshops in each school, to expose head teachers and teachers to the idea of becoming Health Action Schools and the Child-to-Child methodology, the HAS team began conducting workshops according to the specific needs of the teachers in each school. Imagination and flexibility were the main tools in modifying and adapting training inputs to match the realities of each school and classroom and be responsive to the needs of individual teachers.

A school-based model of training was designed for government schools teachers who were reluctant to attend training held at AKU-IED, which required them to travel to IED after school hours. The school-based training sessions were conducted during school hours for not more than two hours at a time once a week for over four to six weeks. The training was based on a health topic to be taught by the teacher during a particular week. The lessons were observed by the IED-HAS team. This school-based training and follow-up in government schools resulted in regular teaching of health issues and the use of active methods in the classroom.

I think we learn much more from trainings and support that happen in our school. It is practical and contextual and we learn that promoting health is possible in our own resources. When trainings happen in IED we come, we note but we don't do. (Class 5 Teacher at Rural Government School)

Child-to-Child Methodology: linking school and community

For the first time our school is lice free! Although we have an anti-lice campaign every year, this time I think it worked because of our approach. It was different. We were not telling children and parents what to do. The children understood the problem and found the solution themselves. I think it was the Child-to-Child six step approach that did it. (Private School Teacher)

The objective of the Child-to-Child approach is to enable children to become health promoters in their communities. For example, through this approach, HAS children have reported that they have helped their parents refrain from unhealthy habits like smoking and eating chalia/pan (beetlenut).

My father used to chew pan a lot but when we discussed in the class about the bad effect of chalia and pan on health ... it helped me to convince my father stop chewing pan and I am proud of that. (Student from a Private School)

The Child-to-Child approach was used to encourage teachers to use methods that promote understanding, help children to think and take decisions about health, and link health learning with action. This approach advocates that health topics are not taught in one lesson but covered over a series of lessons (four to eight periods). Through this sequence of activities children initially recognize the health problem and study it well by relating health issues with their own homes and communities. It was observed that teachers slowly moved away from being prescriptive about healthy behaviours (for example, TELLING children they MUST be clean) to helping them UNDERSTAND WHY healthy behaviours were important.

With the Child-to-Child approach the students are learning based on their past experiences which is more effective. (Community-Based School Teacher)

Once teachers became more confident in the use of active methods they were convinced of what children CAN do rather than cannot do.

Even children who are usually dull and lazy take an interest – probably because they are involved. Initially I thought teaching health in this way would be a lot of work but the children are also working with us so we do not find it a burden, we enjoy [it]. (Government School Teacher)

*Fun Active Method Enhancement Sessions:
helping teachers through short but sustained support*

A particularly popular model of HAS training was called FAME (Fun Active Methods for Education). These two-hour school-based sessions were

requested by teachers, who selected a specific method from a 'menu'. The sessions were open to all teachers, not just health teachers.

I feel the FAME sessions really made me use and generate new methods in my teaching. I had heard of and learnt about these methods before – stories, puppets, pictures, SMART objectives, but FAME made me practice them, how to do them. And I did them in health and then automatically I started to use the methods in other subjects. For example, I started using stories in teaching farming in social studies because I noticed children listened more. They were more involved and attentive and participated more.
(Teacher, Private Boys' School)

These sessions on different teaching methods like storytelling, puppets, dramas, effective use of blackboard, discussion and questioning, group work, pictures, surveys and games were designed to help teachers use active methods not only for teaching health but all subjects (Khamis & Shivji, 1999). Teachers were observed using the material and methods in their own teaching and voiced the benefits for their children.

Simply using pictures can enhance thinking, observation, speaking, writing analysis and discussion skills of children.
(Community School Teachers)

I never knew that puppets can be made so quickly and used effectively in the classroom. Shy children participate in it ... they don't have to show themselves. (Private School Teacher)

The importance of these FAME sessions in improving teaching/learning was commented on by both external evaluators. This is of enormous significance and indicates that for some teachers the HAS programme is providing an effective school-based form of 'Teacher Training' (Gibbs, 1999).

The Role of Head Teachers

The role of head teachers as the key people is crucial in initiating and sustaining any change. The heads were central at all stages from the 'entry negotiation' till the end of the Health Action Schools (HAS) project. Heads were involved in the pre-launch workshops because without them taking the ownership of the project sustainability would have been fragile. Where head transfers were frequent (rural government school and community-based school), little health education took place and, when it did, teaching was poor with little participation by the children. As new head teachers had not bought into the programme from its initiation there was little understanding or ownership of it or recognition of its importance. Teachers were therefore neither encouraged nor supported to be innovative with the curriculum to include health topics. However, in schools where head teachers had chosen

to be part of the project, and were familiar with and supportive of the HAS initiative, not only did health teaching happen but teachers were also seen to involve children more in the lessons. In the two double shift schools, the private boys' school and government girls' school, we saw head teachers taking the initiative to expand their health programmes to the girls' and boys' shift schools respectively. In the private school, where the head had been with the programme, from its start, the programme was extended to include the middle and pre-primary section classes.

School Follow-up

The HAS team observed that without school support the professional development courses did not bring change in the classroom. Much time was spent in school follow-up by the IED-HAS team sitting with teachers, encouraging them to read material, setting objectives and planning and observing lessons. One important outcome of school follow-up was that teachers began to plan health teaching in groups, sharing and learning from each other. This became a powerful professional development activity.

The IED-HAS team developed their own monitoring and tracking strategy, which focused on tracking individual teachers and observing all of the lessons on one topic. Verbal feedback as well as documentation followed observations to track progress. This tracking strategy not only enabled teachers to improve their teaching methodologies but provided guidelines to the HAS team for planning the next training course or FAME sessions based on their needs. This link between training content and impact in teachers' classroom practice resulted in teaching development.

We need an initial 2-3 day orientation but then training should happen through lesson observations and school support and monitoring. This supports us in our teaching at the time we are teaching it. (Teacher, Private Boys' School)

Conclusions

Health education is a key determinant for quality education. Through this research programme we have seen that the health promoting school and Child-to-Child approach create an enabling environment to help teachers teach better and encourage greater participation by children, which in turn enhances their health knowledge and self-esteem. However, the involvement of the whole school in the programme is important rather than just particular target classes.

Two factors enable uptake and success of the programme. Firstly, the support of the head as the main gatekeeper to the school is crucial. Where the head does not support the intervention even committed teachers are unable to bring about any change. Secondly, the language of instruction for effective health education needs to be the mother tongue.

Each school develops a different health programme based on its own contextual needs, resources and realities. Hence the model cannot be replicated but expansion can occur through adapting lessons and applying these to build on particular strengths of existing programmes. This has already occurred through self-identified expansion programmes that have approached HAS to help bring health education in schools. Examples of this can be found in the Northern Areas of Pakistan (Water and Sanitation Extension Programme); Afghan refugee transit centres in Karachi (FOCUS and Aga Khan Education Services); Afghan camps in Peshawar (Save the Children); and community supported schools in rural Sindh. In addition health education modules and courses are now offered on IED's teacher education programmes to expose course participants to the area of school health promotion.

Finally, in contexts such as Pakistan where it is necessary to scale up in order to meet the national needs for school health promotion, human resource intensive approaches, such as that described in this chapter, are not realistic. Other strategies of supporting teachers in the school such as appropriate curriculum materials and teaching aids must be provided to support teachers. The HAS team at IED is in the process of publishing contextually relevant and sensitive materials which are based on research findings of the project and start with where teachers are at. The larger external context of schools must also be engaged to support health education in schools. The IED-HAS programme has attempted to do this through policy dialogues and sharing knowledge and resources with local and national partners.

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